

GUYER²⁸ draws the following conclusions from his own well known experiments with white rabbits, and from the results of other investigations. Basically inheritance is mainly a question of the perpetuation of specific protein-complexes, and development the result of differential reactions of these same fundamental constituents under differing conditions of environment. There is evidently some degree of constitutional identity, probably protein homology, between the nature substance of a tissue and its correlative in the germ. Changes which can affect certain constituents of tissue cells initiate an influence which, borne in the circulating fluids of the body, evidently is able to affect the homologous constituents of the germ cells. This, of course, furnishes the basis for a Lamarckian view. The author feels that here may be a basis for progressive evolution.—M. C. COULTER.

Influence of host on parasite.—Continuing his studies on the physiology of parasitism, BROWN²⁹ has investigated the exosmose of substances from leaf and petal surfaces of several flowering plants, and the influence of such substances on the behavior of *Botrytis* spores. Drops of distilled water uniform in size were placed for twenty-four hours on petals of *Cereus*, *Phyllocactus*, *Gloxinia*, *Lilium*, *Papaver*, *Iris*, *Petunia*, *Tulipa*, *Rosa*, *Begonia*, *Viola*, *Lathyrus* (sweet pea), *Dahlia*, *Geranium*, *Cydonia*, *Pyrus*, and on leaves of several plants, including the broad bean. The change in the drops due to exosmose was determined by studying their capacity for germinating spores added to the drops in water suspensions, and also by electrical conductivity tests. Capacity for germinating spores was based on the average length of the germ tubes. An increase in conductivity resulted in all cases, accompanied in the greater number of plants studied by increased germination capacity, when the drops subjected to exosmose were compared with drops of distilled water of similar size. Petals difficult to wet gave lower conductivity and germination figures. In some plants, with leaves of *Tradescantia discolor*, for instance, increased conductivity was accompanied by germination capacity only equal to or less than that of distilled water, or by actual inhibition of germination. The exact source and nature of the inhibiting substance were not determined.

Attention is directed to the difference in the behavior of fungal parasites. Some, like the rust fungi, penetrate both susceptible and immune varieties of plants, their fate thereafter being determined by internal conditions. Contrasted with this is the behavior of *Botrytis* spores on the leaf of the broad bean, typical of another category of fungal parasites, in which the germination and attack depend upon the exosmose of substances into the infection drop, which can be used as a nutrient by the fungus.—J. G. BROWN.

²⁸ GUYER, M. F., Serological reactions as a probable cause of variation. Amer. Nat. 56:80-96. 1922.

²⁹ BROWN, WILLIAM, Studies in the physiology of parasitism. Ann. Botany 36:101-119. 1922.